

Safety Data Sheet

according to P.U.(A) 310/2013

Printing date 28.05.2026

Revision: 28.05.2026

1 Identification of the hazardous chemical and of the supplier

- **Product identifier**
- **Trade name:** ICP-MS Calibration Standard (125 mL)
- **Part number:** IMS-103
- **Recommended use of the chemical and restrictions on use**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Deutschland GmbH
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
- **Further information obtainable from:**
Telephone: 0800 603 1000
pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(60) 3-9212 5794

* 2 Hazard identification

- **Classification of the substance or mixture**



GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS05 corrosion

Met. Corr. 1 H290 May be corrosive to metals.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

- **Label elements**

- **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

- **Hazard pictograms**



GHS05 GHS06

- **Signal word** Danger

- **Hazard-determining components of labelling:**

hydrochloric acid
nitric acid
hydrogen fluoride

(Contd. on page 2)

MY

Safety Data Sheet

according to P.U.(A) 310/2013

Printing date 28.05.2026

Revision: 28.05.2026

Trade name: ICP-MS Calibration Standard (125 mL)

(Contd. of page 1)

· Hazard statements

- H290 May be corrosive to metals.
- H331 Toxic if inhaled.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.

· Precautionary statements

- P261 Avoid breathing vapours.
- P280 Wear protective gloves / eye protection / face protection.
- P234 Keep only in original container.
- P264 Wash thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P310 Immediately call a POISON CENTER/doctor.
- P321 Specific treatment (see on this label).
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P390 Absorb spillage to prevent material damage.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.
- P406 Store in corrosive resistant container with a resistant inner liner.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Other hazards
· Results of PBT and vPvB assessment

- **PBT:** Not applicable
- **vPvB:** Not applicable

3 Composition and information of the ingredients of the hazardous chemical

· Chemical characterisation: Mixtures
· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

7647-01-0	hydrochloric acid ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; STOT SE 3, H335	4.38%
7697-37-2	nitric acid ⚠ Ox. Liq. 2, H272; ⚠ Acute Tox. 1, H330; ⚠ Skin Corr. 1A, H314; Eye Dam. 1, H318	1.98%
7664-39-3	hydrogen fluoride ⚠ Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; ⚠ Skin Corr. 1A, H314; Eye Dam. 1, H318	0.1%

· Additional information: For the wording of the listed hazard phrases refer to section 16.

-MY

(Contd. on page 3)

Safety Data Sheet according to P.U.(A) 310/2013

Printing date 28.05.2026

Revision: 28.05.2026

Trade name: ICP-MS Calibration Standard (125 mL)

(Contd. of page 2)

* 4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Remove breathing equipment only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

* 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

* 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

* 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.

(Contd. on page 4)

-MY

Safety Data Sheet

according to P.U.(A) 310/2013

Printing date 28.05.2026

Revision: 28.05.2026

Trade name: ICP-MS Calibration Standard (125 mL)

(Contd. of page 3)

- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

* 8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see section 7.

- **Control parameters**

· Ingredients with limit values that require monitoring at the workplace:	
7647-01-0 hydrochloric acid	
PEL (Malaysia)	Ceiling limit: 7.5 mg/m ³ , 5 ppm
7697-37-2 nitric acid	
PEL (Malaysia)	Long-term value: 5.2 mg/m ³ , 2 ppm
7664-39-3 hydrogen fluoride	
PEL (Malaysia)	Ceiling limit: 2.3 mg/m ³ , 3 ppm sebagai F

- **Additional information:** The lists valid during the making were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Do not inhale gases / fumes / aerosols.
- Avoid contact with the skin.
- Avoid contact with the eyes and skin.

- **Respiratory protection:**

When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.

- **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

- **Material of gloves**

- For normal use: nitrile rubber, 11-13 mil thickness
- For direct contact with the chemical: butyl rubber, 12-15 mil thickness

- **Penetration time of glove material**

- For normal use: nitrile rubber: 1 hour
- For direct contact with the chemical: butyl rubber: > 4 hours

(Contd. on page 5)

Safety Data Sheet

according to P.U.(A) 310/2013

Printing date 28.05.2026

Revision: 28.05.2026

Trade name: ICP-MS Calibration Standard (125 mL)

(Contd. of page 4)

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Fluid
· Colour:	According to product specification
· Odour:	Characteristic
· Odour threshold:	Not determined

· **pH-value:** Not determined

· **Change in condition**

· Melting point/freezing point	Undetermined
· Initial boiling point and boiling range	100 °C

· **Flash point:** Not applicable

· **Flammability:** Not applicable

· **Decomposition temperature:** Not determined

· **Ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product does not present an explosion hazard.

· **Explosion limits:**

· Lower:	Not determined
· Upper:	Not determined

· **Vapour pressure at 20 °C:** 23 hPa

· **Density:** Not determined

· **Relative density:** Not determined

· **Vapour density:** Not determined

· **Evaporation rate:** Not determined

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient: n-octanol/water:** Not determined

· **Viscosity:**

· Dynamic:	Not determined
· Kinematic:	Not determined

· **Solvent content:**

· Water:	93.3 %
· VOC (EC)	0.00 %

· **Solids content:** 0.2 %

(Contd. on page 6)

MY

Safety Data Sheet

according to P.U.(A) 310/2013

Printing date 28.05.2026

Revision: 28.05.2026

Trade name: ICP-MS Calibration Standard (125 mL)

(Contd. of page 5)

· **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**

· **LD/LC50 values relevant for classification:**

ATE (Acute Toxicity Estimates)

Oral	LD50	4,021 mg/kg
Dermal	LD50	5,000 mg/kg
Inhalative	LC50/4 h	2.51 mg/L

7647-01-0 hydrochloric acid

Oral	LD50	900 mg/kg (rabbit)
------	------	--------------------

7697-37-2 nitric acid

Inhalative	LC50/4 h	67 mg/L (rat)
------------	----------	---------------

7664-39-3 hydrogen fluoride

Oral	LD50	1,276 mg/kg (rat)
------	------	-------------------

- **Primary irritant effect:**
- **Skin corrosion or irritation** Irritant to skin and mucous membranes.
- **Serious eye damage or eye irritation** Strong irritant with the danger of severe eye injury.
- **Respiratory / skin sensitization** No sensitising effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Toxic
Irritant

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.

(Contd. on page 7)

-MY-

Safety Data Sheet

according to P.U.(A) 310/2013

Printing date 28.05.2026

Revision: 28.05.2026

Trade name: ICP-MS Calibration Standard (125 mL)


(Contd. of page 6)

- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
 Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
 Must not reach sewage water or drainage ditch undiluted or unneutralised.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable
- **vPvB:** Not applicable
- **Other adverse effects** No further relevant information available.

13 Disposal information

- **Waste treatment methods**
- **Recommendation**
 Dispose of contents/container in accordance with local/regional/national/international regulations.
 Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transportation information

· UN-Number · ADR, IMDG, IATA	UN3264
· UN proper shipping name · ADR · IMDG, IATA	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROCHLORIC ACID) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROCHLORIC ACID)
· Transport hazard class(es) · ADR, IMDG, IATA 	8 Corrosive substances. 8
· Packing group · ADR, IMDG, IATA	III
· Environmental hazards:	Not applicable
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Segregation groups · Stowage Category	Warning: Corrosive substances. 80 F-A,S-B (SGG1) Acids B

(Contd. on page 8)

MY

Safety Data Sheet

according to P.U.(A) 310/2013

Printing date 28.05.2026

Revision: 28.05.2026

Trade name: ICP-MS Calibration Standard (125 mL)

(Contd. of page 7)

· Stowage Code	SW2 Clear of living quarters.
· Segregation Code	SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROCHLORIC ACID), 8, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **EHS reference list**

7647-01-0	hydrochloric acid
7697-37-2	nitric acid
7664-39-3	hydrogen fluoride

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· **Department issuing SDS:** Document Control / Regulatory

· **Contact:** pdl-acg-regulatory-cq@agilent.com

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

(Contd. on page 9)

MY

Safety Data Sheet

according to P.U.(A) 310/2013

Printing date 28.05.2026

Revision: 28.05.2026

Trade name: ICP-MS Calibration Standard (125 mL)

(Contd. of page 8)

LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 2: Oxidizing liquids – Category 2
Met. Corr. 1: Corrosive to metals – Category 1
Acute Tox. 2: Acute toxicity - oral – Category 2
Acute Tox. 4: Acute toxicity - oral – Category 4
Acute Tox. 1: Acute toxicity - oral – Category 1
Acute Tox. 3: Acute toxicity - oral – Category 3
Skin Corr. 1A: Skin corrosion or irritation – Category 1A
Skin Corr. 1B: Skin corrosion or irritation – Category 1B
Skin Irrit. 2: Skin corrosion or irritation – Category 2
Eye Dam. 1: Serious eye damage or eye irritation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· * **Data compared to the previous version altered.**

MY